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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,302	12/28/2001	Byung Cheon Lee	K-0382	3073
34610	7590	10/28/2005		
FLESHNER & KIM, LLP P.O. BOX 221200 CHANTILLY, VA 20153			EXAMINER SOL, ANTHONY M	
			ART UNIT 2662	PAPER NUMBER

DATE MAILED: 10/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/029,302

Applicant(s)

LEE, BYUNG CHEON

Examiner

Anthony Sol

Art Unit

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– The MAILING DATE of this communication appears on the cover sheet with the correspondence address –

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 December 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 5-9, 11, 12, 18 is/are rejected.
- 7) ☒ Claim(s) 3, 4, 10, 13-17, 19, 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 9 is objected to because of the following informalities:
  - For claim 9, line 2, it is believed that "sad original user data" should state – said original user data--.

Appropriate corrections are required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claim 1 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted Prior Art ("Prior Art").

Prior Art discloses receiving one or more AAL2 cells and extracting one or more CPS packets (Application, pg. 3, para. 8, lines 1-3; claim 1 - receiving one or more AAL2 cells that include a CPS packet including one of N data subsets of an original user data set; claim 1 - extracting said CPS packet from said one or more AAL2 cells received in the step (a)).

Prior Art further discloses converting the extracted packets to one or more AAL5 cells and transmits the AAL5 cells to the ATM switch 11 (Fig. 1). It is inherent that in

order for the AAL5 cells to be switched by the ATM switch, the cells must have an ATM header (Application, pg. 3, para. 8, lines 3-5; claim 1 - generating an AAL5 cell by adding an ATM header to said data subset included in said CPS packet).

Prior Art further discloses that the first ATM cell converter 10 (Fig. 1) must store all the packets generated in order to convert them to AAL5 cells (Application, pg. 5, para. 13, lines 4-6; claim 1 - repeating the steps (a) to (d) until said CPS packet extracted in the step (b) is a final CPS packet that includes an Nth data subset having its size of n bytes.

Prior Art does not disclose storing intermediate CRC and length values of said data subset included in said AAL5 cell generated in the step (c) in a memory. Specifically, the prior art does not disclose storing CRC and length values of AAL5 cell, *after* being converted to AAL5 cells.

However, the prior art does disclose that the second ATM cell converter 12 (Fig. 1) must store all the AAL5 cells, which inherently includes CRC and length values (Application, pg. 4, para. 12, lines 4-5; claim 1 - storing intermediate CRC and length values of said data subset included in said AAL5 cell generated in the step (c) in a memory).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of converting an AAL2 cells to AAL5 cells as disclosed by the applicant as Prior Art to include a step to store AAL 5 packets which contain data subsets, including inherent CRC and length values. The motivation being that the length-indicating field is included in the last AAL5 field (Application, pg. 4,

para. 12, lines 5-6). One skilled in the art would have been motivated to combine the different steps of the admitted Prior Art to generate the claimed invention with a reasonable expectation of success.

4. Regarding claim 11,

Prior Art discloses that for converting N AAL5 cells (N indicates repetitive sequence of receiving and processing one or more AAL5 cells) including a user data set to AAL2 cells, the second ATM cell converter 12 (Fig. 1) must store all the AAL5 cells in a memory. It is inherent that the AAL5 cell includes a payload including a data subset of an original user data set (Application, pg. 4, para. 12, lines 3-5; claim 11 – receiving a first AAL5 cell that includes a first payload including a first data subset of an original user data set; claim 1 – storing said first payload in a memory if said first cell is not a final AAL5 cell; claim 1 – receiving a next AAL5 cell that includes a next payload including a next data subset of said original user data set; claim 1 – emptying said memory and storing said next payload in said memory).

Prior Art does not disclose generating a CPS packet by adding a packet header to said payload stored in said memory if said AAL5 cell received in the step (c) is not said final AAL5. Specifically, the prior art does not disclose generating a CPS packet *before* converting to an AAL2 cell.

However, prior art does disclose that ATM cell converter 10 (Fig. 1) generates CPS packets and stores all the packets generated. It is inherent that a packet header is part of a CPS packet (Application, pg.5, para. 13, lines 2-6; claim 11 – generating a

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CPS packet by adding a packet header to said payload stored in said memory if said AAL5 cell received in the step (c) is not said final AAL5).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of converting an AAL5 cells to AAL2 cells as disclosed by the applicant as Prior Art to include a step to generate a CPS packet by adding a packet header as disclosed by Prior Art so that the packet format be consistent with the standards. One skilled in the art would have been motivated to combine the different steps of the admitted Prior Art to generate the claimed invention with a reasonable expectation of success.

5. Claims 2, 5, 8-9, 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over admitted Prior Art ("Prior Art") in view of U.S. Patent No. 5,867,509 ("Tanaka").

Regarding claim 2,

Prior Art discloses a method that covers all the limitations of the parent claim.

Prior does not disclose the step of (f) calculating total CRC and length values of said original user data set.

Tanaka discloses that a management table shown in FIG. 10 stores a reassembly status variable that indicates a state before start, a state during reassembly, disposal processing, and the like, and also stores frame length data (length values) that indicates the data length of already received data associated with ATM cells received so far, the start and end addresses of received data, the intermediate

value of the CRC calculation, and the like (Col. 2, lines 29-35; claim 2 - further comprising step of (f) calculating total CRC and length values of said original user data set; claim 8 – total CRC value of said original user data set is calculated by adding each intermediate CRC value stored in said memory with said last CRC value of said Nth data subset included in said final CPS packet; claim 9 – total length value of said original user data set is calculated by adding each intermediate length value stored in said memory with said last length of said Nth data subset included in said final CPS packet).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of converting an AAL2 cells to AAL5 cells as disclosed by the applicant as Prior Art to include a step of calculating data length values and CRC value as disclosed by Tanaka. The motivation to combine is to manage the intermediate state during reassembly of a frame (Col.2, lines 27-28). One skilled in the art would have been motivated to combine Prior Art with Tanaka (collectively "Prior Art-Tanaka") to generate the claimed invention with a reasonable expectation of success.

6. Regarding claim 5,

Prior Art-Tanaka discloses a method that covers all the limitations of the parent claim.

Prior Art-Tanaka discloses that frame length are updated and if it indicates the end of the frame and CRC calculation is performed (total values are calculated) for the

currently received data and in agreement with a specific value  $V(x)$ , the absence of error is determined, thus ending the reassembly processing (Tanaka, col. 3, lines 20-31; claim 5 - total values are calculated by using each intermediate CRC value and length value stored in said memory and last CRC and length values of said Nth data subset).

7. Regarding claim 12,

Prior Art discloses a method that covers all the limitations of the parent claim.

Prior Art discloses converting N AAL5 cells (N indicates repetitive process of receiving and processing one or more AAL5 cells) including a user data set to AAL2 cells. It is inherent that AA2 cells must correspond to CPS packet generated (Application, pg. 4, para. 12, lines 3-4; claim 12 – generating one or more AAL2 cells corresponding to said CPS packet generated; claim 12 – repeating the steps (c) to (g) until said next AAL5 cell received in the step (c) is said final AAL5 cell that includes a final payload).

Prior Art does not disclose recording the length of said payload included in said generated packet.

Tanaka discloses that a management table shown in FIG. 10 stores a reassembly status variable that indicates a state before start, a state during reassembly, disposal processing, and the like, and also stores frame length data (length of said payload) that indicates the data length of already received data associated with ATM



cells received so far (Col. 2, lines 29-34; claim 12 – recording the length of said payload included in said generated packet).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of converting an AAL5 cells to AAL2 cells as disclosed by the applicant as Prior Art to include a step of storing a reassembly status variable including storing frame data length as disclosed by Tanaka so that the system will know when the final AAL5 is received. One skilled in the art would have been motivated to combine Prior Art with Tanaka (collectively "Prior Art-Tanaka") to generate the claimed invention with a reasonable expectation of success.

8. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted Prior Art ("Prior Art") in view of U.S. Patent No. 6,711,126 ("Besset-Bathias").

Prior Art discloses a method that covers all the limitations of the parent claim.

Prior Art does not disclose that each CPS packet extracted in the step (b) includes a CPS packet header including a UUI field set to 26.

Besset-Bathias discloses that in the case of a segmentation, the UUI field has the value "26" to indicate receipt of an end of SSSAR SDU (Col. 2, lines 66-67; claim 6 – each CPS packet extracted in the step (b) includes a CPS packet header including a UUI field set to 26).

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of converting an AAL2 cells to AAL5

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cells as disclosed by the applicant as Prior Art to include a step of including a UUI field with a value of "26" as disclosed by Besset-Bathias to indicate the end of the packet (Col. 2, lines 66-67). One skilled in the art would have been motivated to combine Prior Art with Besset-Bathias (collectively "Prior Art-Besset-Bathias") to generate the claimed invention with a reasonable expectation of success.

9. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted Prior Art ("Prior Art") in view of U.S. Patent No. 6,449,254 B1 ("Hadjiahmad").

Prior Art discloses a method that covers all the limitations of the parent claim.

Prior Art does not disclose that each AAL5 cell generated in the step (c) includes an ATM header including a PTI field set to "000".

Hadjiahmad discloses that unassigned header 20c (Fig. 2C) can contain any binary value from 000 to 111 in PTI field 30 (Fig. 2B) (Col. 5, lines 30-31; claim 7 – each AAL5 cell generated in the step (c) includes an ATM header including a PTI field set to "000").

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of converting an AAL2 cells to AAL5 cells as disclosed by the applicant as Prior Art to include a step of including an ATM header with a binary value of 000 as disclosed by Hadjiahmad since unassigned headers can contain any binary value from 000 to 111 in a PTI field to indicate the end of the packet (Col. 5, lines 30-31). One skilled in the art would have been motivated to

combine Prior Art with Hadjiahmad (collectively "Prior Art-Hadjiahmad") to generate the claimed invention with a reasonable expectation of success.

10. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over admitted Prior Art ("Prior Art") in view of U.S. Patent No. 6,185,209 B1 ("Wicklund").

Prior Art discloses a method that covers all the limitations of the parent claim.

Prior Art does not disclose that the final AAL5 cell includes its PTI field set to "001" (Col. 5, lines 43-45).

Wicklund discloses that the last cell of each packet has its PTI field coded to 001.

It would have been prima facie obvious to one of ordinary skill in the art at the time of the invention was made to modify the steps of converting an AAL5 cells to AAL2 cells as disclosed by the applicant as Prior Art to include a step of coding the PTI field with "001" as disclosed by Wicklund so that the system knows when the last cell of each packet has been received (Wicklund, col. 5, lines 43-45). One skilled in the art would have been motivated to combine Prior Art with Tanaka (collectively "Prior Art-Tanaka") to generate the claimed invention with a reasonable expectation of success.

#### ***Allowable Subject Matter***

11. Claims 3, 4, 10, 13-17, 19 and 20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

**Conclusion**

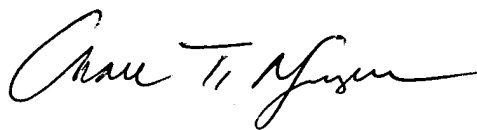
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anthony Sol whose telephone number is (571) 272-5949. The examiner can normally be reached on M-F 7:30am - 4pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
Anthony Sol  
Examiner  
Art Unit 2662

  
CHAU NGUYEN  
SUPERVISORY PATENT EXAMINER  
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10/19/2005